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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,212	07/31/2003	Andrew Siegel	MIT-146	1116

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Kirkpatrick & Lockhart Preston Gates Ellis LLP
STATE STREET FINANCIAL CENTER
One Lincoln Street
BOSTON, MA 02111-2950

EXAMINER	
RAMIREZ, JOHN FERNANDO	
ART UNIT	**PAPER NUMBER**
3737	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/632,212	SIEGEL, ANDREW	
	Examiner	Art Unit	
	John F. Ramirez	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-31 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-31 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 4/29/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9-12, 18, 19, 26, 28 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugiyana et al. (US 5,868,134).

The Sugiyama et al. patent discloses an imaging device (3000) for capturing images of the patient's retina as pixel data (see abstract, fig. 5A) having a user defined area (figure 29A and related description); and a processor (100) in communication with the imaging device (3000) (see figure 1) with an output device (elements 200, 300, 400), wherein the processor compares the pixel data to a database to determine if the patient is at risk of vascular collapse (col. 1, lines 59-65), wherein the processor measures a vasculature (figure 10), non-vascular tissue characteristic from the pixel data (abstract), wherein the imaging device captures images of the retina from a region around the patient's optical disc (abstract, figures 3 and 4), wherein the pixel data is obtained from CCD-based camera (3000) for capturing images of the patient's retina (abstract, figure 5A).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al. in view of Denninghoff (US 6,701,169).

The Sugiyama et al. patent teaches all the limitations of the claimed subject matter except for mentioning specifically the steps of measuring arterial and venous vessel diameter, calculating a ratio of venous diameter to arterial diameter from the pixel data, and comparing the ratio to a database to determine if the patient is at risk of vascular collapse. However, imaging devices for capturing images of patient's retina for the application of measuring a vasculature characteristic including the steps of measuring arterial and venous vessel diameter, calculating a ratio of venous diameter to arterial diameter from the pixel data, and comparing the ratio to a database to determine if the patient is at risk of vascular collapse, are considered conventional in the art as evidenced by the teachings of Denninghoff (US 6,701,169) (see abstract, figure 1, col. 3 lines 13-46, col. 3 lines 50-67, col. 4 lines 1-20, col. 4 line 61-col. 5 line 7).

Based on the above observations, for a person of ordinary skill in the art, modifying Sugiyama et al. with the above discussed enhancements would have been considered obvious because such modifications would provide more useful results in detecting the condition and progress of a retinal disease such as glaucoma.

Claims 13, 15, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al. in view of Odom et al. (US 6,626,537).
The Sugiyama et al. patent teaches all the limitations of the claimed subject matter except for mentioning specifically having a MOS based camera for capturing images of the patient's retina, wherein the processor outputs an alert if the measurements are below or above a predetermined range of values. However, an imaging device having a MOS based camera for capturing images of the patient's retina, wherein the processor outputs an alert if the measurements are below or above a predetermined range of values, is considered conventional in the art as evidenced by the teachings of Odom et al. (US 6,626,537) (see abstract, col. 4 lines 35-44, figure 1, element 374).

Based on the above observations, for a person of ordinary skill in the art, modifying Sugiyama et al. with the above discussed enhancements would have been considered obvious because such modifications would provide more useful results in detecting the condition and progress of a retinal disease such as glaucoma.

Claims 16, 17 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al. in view of Smith et al. (US 6,728,561).
The Sugiyama et al. patent teaches all the limitations of the claimed subject matter except for mentioning specifically having a processor that distinguishes between vascular and non-vascular tissues, arterial and venous vessels. However, an imaging device system for capturing images of the patient's retina having a processor that

distinguishes between vascular and non-vascular tissues, arterial and venous vessels, is considered conventional in the art as evidenced by the teachings of Smith et al. (US 6,728,561) (see abstract, col. 8, lines 10-50, see figures 1 and 4).

Based on the above observations, for a person of ordinary skill in the art, modifying Sugiyama et al. with the above discussed enhancements would have been considered obvious because such modifications would provide more useful results in detecting the condition and progress of a retinal disease such as glaucoma.

Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al. in view of Smith et al. (US 5,776,060) or Smith et al. (US 6,728,561). The Sugiyama et al. patent teaches all the limitations of the claimed subject matter except for mentioning specifically having a laser light source, wherein the data is captured at a wavelength in the range of about 400 nm to about 1000 nm and 500 nm to 700 nm; wherein the light source provides light having a wavelength in the range of about 400 nm to about 1000 nm and 500 nm to about 700 nm. However, an imaging device system for capturing images of the patient's retina having a laser light source, wherein the data is captured at a wavelength in the range of about 400 nm to about 1000 nm and 500 nm to 700 nm; wherein the light source provides light having a wavelength in the range of about 400 nm to about 1000 nm and 500 nm to about 700 nm is considered conventional in the art as evidenced by the teachings of Smith et al. (US 6,728,561) (see abstract, figures 4 and 6).

Based on the above observations, for a person of ordinary skill in the art, modifying Sugiyama et al. with the above discussed enhancements would have been considered obvious because such modifications would provide more useful results in detecting the condition and progress of a retinal disease such as glaucoma.

Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al. in view of Rice et al. (US 6,477,394).

The Sugiyama et al. patent teaches all the limitations of the claimed subject matter except for mentioning specifically having an imaging device with a single element detector and wherein the system is portable. However, an imaging device system for capturing images of the patient's retina having a single element detector and wherein the system is portable is considered conventional in the art as evidenced by the teachings of Rice et al. (US 6,477,394) (see figure 3, col. 4, lines 49-67, col. 5, lines 1-38).

Based on the above observations, for a person of ordinary skill in the art, modifying Sugiyama et al. with the above discussed enhancements would have been considered obvious because such modifications would provide more useful results in detecting the condition and progress of a retinal disease such as glaucoma.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Ramirez whose telephone number is (571) 272-8685. The examiner can normally be reached on (Mon-Fri) 7:30 - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JFR

BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700